



**Wisconsin** Public Health Information Network:  
*Connecting and sharing health information*





## The **Wisconsin** Public Health Information Network:

*Supports the entire spectrum of public health informatics through:*

- *Disease detection and monitoring*
- *Data analysis*
- *Secure network communications*
- *Emergency alert and response*
- *Knowledge management*

The Wisconsin Public Health Information Network (PHIN) is a secure, online network from the Wisconsin Department of Health and Family Services for integrating the information resources of public health partners. This brochure provides an overview of Wisconsin PHIN features. It includes examples of its uses, background information on its development, and contact information for reaching the Wisconsin PHIN team.

The Internet has forever changed how people work with information, and with each other. While business, education and government were early adopters of Web technology, the health care field embraced the Web later. Web technology is now at work in the field of public health, connecting practitioners and critical data through the Wisconsin PHIN.

Information sharing is essential to public health practices. Yet it has been a daunting task, given that the “patient” is actually a community or “population.” Data volume is enormous. Depending on the issue, the scope of public health work expands, with practitioners working to identify and control health threats in towns, cities, states and regions. Recent events have forced a larger, national scope for public health and accelerated the demand for effective and secure information transmission.

## Threat of Bioterrorism and the Health Alert Network

By the early 1990s, a new global health threat was emerging – bioterrorism. In 1998, the federal government approved the development of a national public health communications structure. In the event of a public health emergency, such a structure would enable a fast and well-coordinated response. Equally important, it would provide an online forum for securely exchanging information on a much broader range of public health issues.

By 2001, Wisconsin’s “Health Alert Network” (HAN) was launched and in use. The U.S. Centers for Disease Control and Prevention funded HAN development in each state as the first component of a much larger network: the PHIN, which contains the HAN and much more.



## PHIN Partners



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**“Using the PHIN, our county can activate our Emergency Command Caller System quickly and comprehensively.”** Steve Johnson  
Bioterrorism Grant Coordinator, Brown County

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### Expanding the vision of a national network: PHIN

Bioterrorism became frighteningly real in 2001 when three letters contaminated with anthrax were delivered in mid-September to New York and Florida, followed by two letters mailed in early October to Washington, D.C. The anthrax incidents and the attacks on the World Trade Center just days earlier showed how critical the HAN would be not only to public health professionals but to the first responders in any crisis.

The HAN functions as the Public Health Information Network’s health alert component, but was only the first component of PHIN to be developed. Using the PHIN, public health practitioners can retrieve as well as contribute data from their locale on a secure Web site.

Police, fire, EMT, emergency dispatchers and other first responders, as well as hospital staff, are now able to coordinate crisis response using the messaging and health advisory capabilities of the HAN. The HAN allows for quick message transmission, and also provides documentation of the situation and a written plan of action which is key when managing a crisis with many responders.



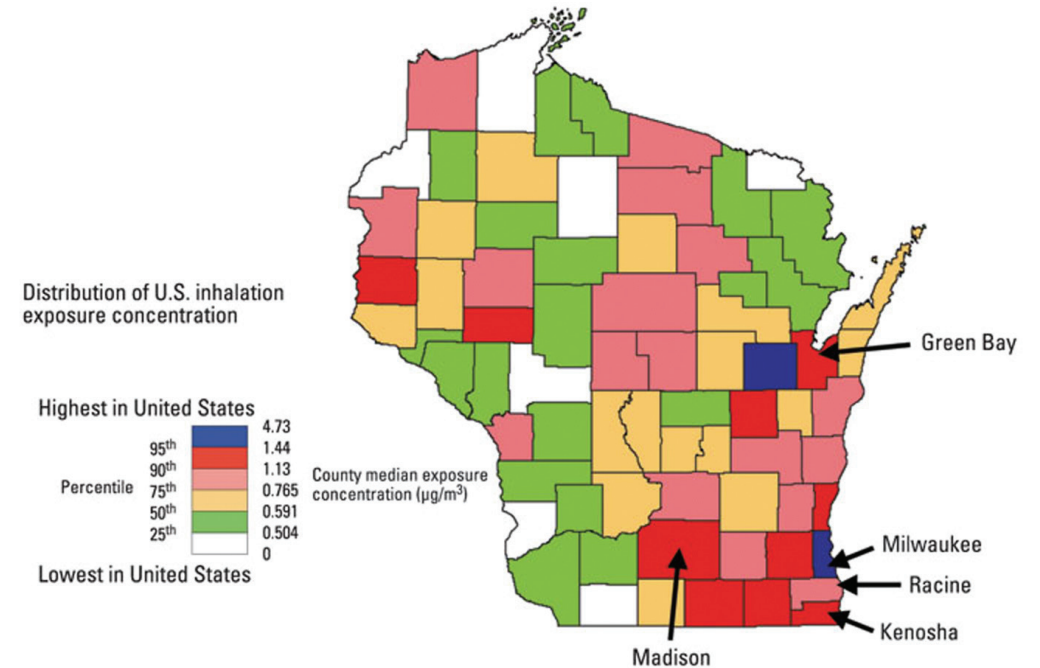
“The PHIN’s visual representation of information gives me a more immediate grasp of a health issue on the aggregate level.”

Jennifer Stohler  
Bioterrorism and Public Health Preparedness Program Coordinator,  
Milwaukee and Waukesha Counties

## PHIN collaboration: Wisconsin and beyond

A unique collaboration in Wisconsin will benefit the PHIN on the national level by serving as a model. Working together, the Division of Public Health in the Wisconsin Department of Health and Family Services and the Division of Information Technology at the University of Wisconsin-Madison are using PHIN modules to conduct sophisticated disease analysis. One project, for example, focuses on the connection between environmental conditions and occurrences of childhood cancer.

Databases from different sources can be securely accessed through the PHIN. The PHIN also provides graphics and other presentation tools that enable policymakers and researchers to view data in various ways. Data from one or more databases can be shown in many forms, including maps (Figure 2).



**Figure 2.** National Air Toxics Assessment: 1996 estimated Wisconsin county median exposure concentration of benzene. From U.S. Environmental Protection Agency/Office of Air Quality Planning and Standards National-Scale Air Toxics Assessment (Technology Transfer Network 2002).

By using the PHIN, researchers will be able to do the following securely on the Web:

- ▶ Automatically exchange case data between public health and hospital registries
- ▶ Enter supplemental data to confirm environmental exposures and test hypotheses
- ▶ Choose from several formats when viewing automated data analysis and visualization
- ▶ Link exposure records to outcome records
- ▶ Disseminate findings to colleagues
- ▶ Generate and test hypotheses

The dynamic and interactive nature of the PHIN lets researchers understand data in new ways. The PHIN enhances the use of data by combining information from multiple sources across the country. Interoperable Web architecture allows authorized PHIN users in any state to securely retrieve and view information.

“I have used the PHIN’s Survey Builder to collect input on projects we have completed. I have also used it to issue RFPs to health departments.” David Pluymers, Director  
Public Health Preparedness Program  
Division of Public Health

Wisconsin PHIN

The Wisconsin PHIN offers users a wide array of secure functions including:

- Health Alert Network** Receive emergency alerts and advisories for local and national health incidents
- Registries** View reports of disease incidence; separate databases exist for childhood cancer, West Nile virus, birth defects, asthma, pesticide poisoning, audiometric screening
- Statistical analysis** Combine/integrate/represent data in different forms (charts, tables, maps, etc.) for greater understanding



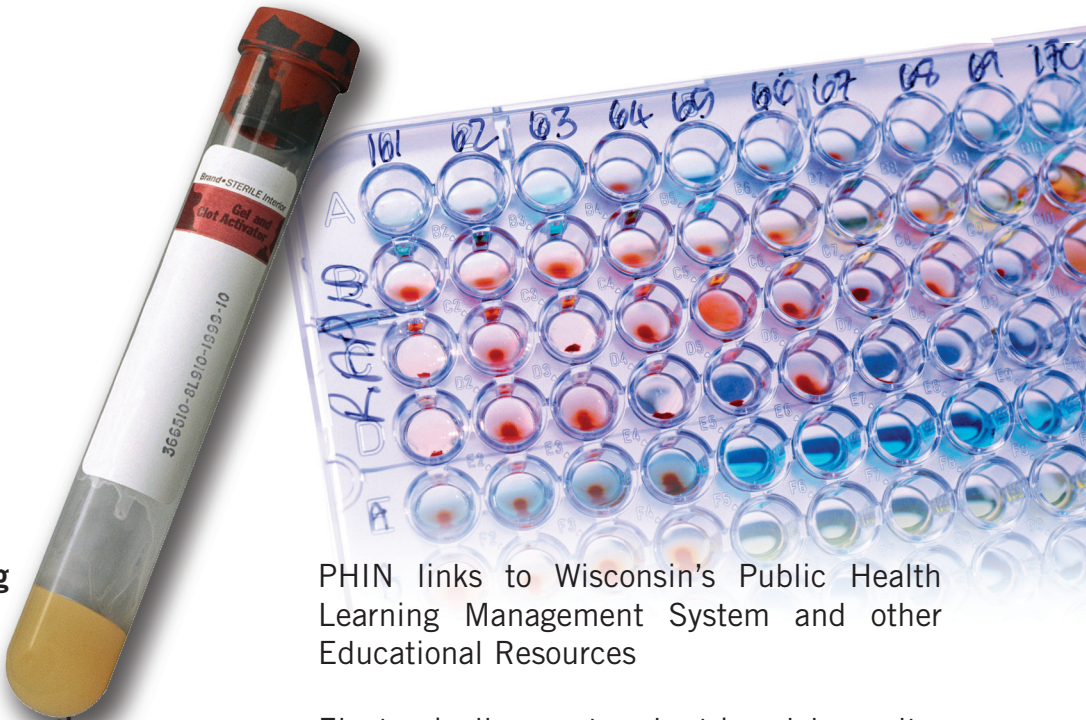
Staff training

Laboratory reporting

Medical records

Disease databases

“The PHIN makes communicating with my peers much easier. With one step, I can place a file in a central repository and know that multiple colleagues can access it, which saves me a lot of time.” Amy Wergin  
Director of Public Health Nursing, Manitowoc County Health Department



PHIN links to Wisconsin’s Public Health Learning Management System and other Educational Resources

Electronically report and retrieve lab results

Limited-scope repository of patient data related to care planning (i.e., immunizations, nutritional services, health care education needs, etc.)

Used for reporting communicable disease incidence (i.e., National Health Surveillance Network, Epidemic Information Exchange, and National Electronic Disease Surveillance System) as well as aggregate data from state and CDC public health databases

## What kinds of safeguards exist to protect the confidentiality of PHIN data?

The PHIN meets rigorous security standards, and conforms to state and federal statutes, such as the Health Insurance Portability and Accountability Act (HIPAA), that mandate security and privacy protocols for personal health information.

Data security is also ensured through role-based user access. This means that an eligible individual may be granted PHIN access, but not all users can access all content. Even within a database, not all levels of information will be open to every user.

## What the future holds

The PHIN is growing in Wisconsin and nationwide. For the first time, public health information and those who rely on it are being linked electronically in a comprehensive way. Already, the PHIN has changed the ways in which practitioners gather, analyze and communicate public health information – allowing greater coordination and speed of transmission.

PHIN technology serves its original purpose well – to alert public health partners in the event of a health care crisis. Even more promising is the role the PHIN may play in helping researchers to understand the causes and prevention of disease.

For more information about the PHIN, contact:

- ▶ Wisconsin Public Health Information Network
- ▶ Division of Public Health
- ▶ Wisconsin Department of Health and Family Services
- ▶ E-mail: [DHFSWiPHIN@Wisconsin.Gov](mailto:DHFSWiPHIN@Wisconsin.Gov)
- ▶ On the Internet: <http://dhfs.wisconsin.gov/WiPHIN/>

## Wisconsin PHIN Data Digest

**5,156:** Total number of authorized users

**1,627:** Total number of organizations represented

## Frequently used topic areas:

1. Communicable Diseases
2. Bioterrorism Preparedness
3. Lab Reports (state and local)
4. Chronic Disease Prevention
5. Consortia (Wisconsin Bioterrorism Preparedness Consortia)
6. Emergency Medical Services
7. Family and Community Health
8. Food Safety and Recreational Licensing
9. SPHERE (Secure Public Health Electronic Record Environment)
10. Occupational Health

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